



ZBNF



Zero Budget Natural Farming in Andhra Pradesh, India

Zero Budget Natural Farming (ZBNF) is a grassroots agrarian movement in Andhra Pradesh, India. It is a low-cost, locally-sourced natural farming method that does not rely on the use of agrochemicals and has the potential to meet the twin goals of global food security and conservation of the environment. ZBNF launched in 131 village clusters in 2016 and has since expanded to 268 clusters. To fully explore the potential of ZBNF as an agricultural strategy, empirical research is being done to understand the social dynamics and scientific processes taking place through the farming method.

DEVELOPING AN EVIDENCE BASE TO SUPPORT ZBNF'S WIDER APPLICATION

BACKGROUND

High levels of farmer debt and the phenomenon of farmer suicides in India have made finding low-cost agricultural strategies fundamental to rural wellbeing and development. This is combined with the increasing environmental changes, particularly soil degradation, which undermines effective agricultural production. These are formidable challenges which have a disproportionately higher effect on the food security and wellbeing in lower income countries, endangering the achievement of the SDGs. Zero Budget Natural Farming (ZBNF) acts to address these problems. It is a regenerative agricultural practice, which addresses the problem of soil degradation while being low-cost, mitigating the problem of farmer debt. The widespread adoption of ZBNF has the potential to enhance the livelihood resilience of smallholder farmers to climate and land use change, while increasing their income and food security, and improving soil fertility.

RESEARCH APPROACH & ACADEMIC RATIONALE

In Andhra Pradesh, ZBNF is being implemented by Rythu Sahikara Samstha (RySS), a non-profit organization established by the state government. RySS works through a rural extension model that engages a network of educated and trained farming fellows, resource persons, and champions of the ZBNF program to work in village clusters, primarily with women's self-help groups (SHGs). An interdisciplinary team of soil and social scientists from the University of Reading are working to develop an evidence base to understand the strengths and weaknesses of the ZBNF approach, to what extent that success has come from context-specific conditions, and whether there are principles that could be useful in other geographic and cultural areas.

SUMMARY OF METHODOLOGY

The soil science investigation team initiated in-situ crop experiments to analyze soil nutrient budgets, carbon dynamics, resilience to climatic stress, microbiology, and water use efficiency in five experimental sites that represent distinct agro-climatic zones. Meanwhile, the social science investigation team, using research methods such as gendered innovation mapping and participatory photography, are analyzing the communication and learning dynamics of smallholder women farmers to understand decision making and innovation processes amongst ZBNF participants.

